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**DISINTERMEDIATION AND REINTERMEDIATION IN THE U.S.  
AIR TRAVEL DISTRIBUTION INDUSTRY: A DELPHI STUDY**

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**ELECTRONIC COMMERCE**

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## **DISINTERMEDIATION AND REINTERMEDIATION IN THE U.S. AIR TRAVEL DISTRIBUTION INDUSTRY: A DELPHI STUDY**

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### **ABSTRACT**

Observers of the Electronic Commerce (EC) landscape often comment on the prospects for disintermediation. Other observers note that the nature of EC will create new kinds of intermediaries, termed “cybermediaries”, who would occupy positions in Internet channels between producers and consumers. The word coined to describe this is “reintermediation”. In either case, traditional retailers would be threatened by new EC-enabled competition. This investigation was launched to predict the occurrence and impact of disintermediation and reintermediation in the US air travel distribution industry. A group of industry experts was assembled as a Delphi panel and asked to predict the effect that EC would have on the major channel players in each of five major market segments. The panel forecast that major disintermediation and reintermediation will occur and that there will be a sharp reduction in the number of traditional travel agents five and ten years in the future. The panel also identified a number of strategic threats and opportunities for the channel players.

**KEYWORDS:** electronic commerce, disintermediation, reintermediation, cybermediaries, air travel distribution, Delphi methodology.

## I. INTRODUCTION

Many observers of the Electronic Commerce (EC) scene forecast that traditional channel intermediaries will be by-passed by suppliers reaching out to end customers directly. The common term used to describe this process is disintermediation. Examples of disintermediation include airline direct services, in which airline passengers book their travel directly from the airlines using the airlines' web site or telephone call center. When this occurs, the travel agent is "disintermediated" and, of course, loses the commission the airline would have otherwise paid had the traveler used the agent for booking. Other examples include Dell Computer and Cisco Systems, which sell over \$2 billion and \$5 billion a year, respectively, from their web sites (Infoworld, 1998). Egghead Software closed all of its retail stores in 1998 and now sells and delivers software products exclusively over the Internet (Wilde, 1999). Disintermediation by EC technologies is a potential threat to any business that occupies an intermediate position in the distribution channel.

Other observers, while acknowledging the threat of disintermediation to traditional channel players, point out that we are seeing the rise of new intermediaries, called "cybermediaries", (Sakar, Butler and Steinfeld, 1995) who are staking out territory in cyberspace between producers and the ultimate consumer of products and information. Amazon.com, the well-publicized purveyor of books, videos and CDs on the Internet is perhaps the best example, although there are many others. In the travel industry, cybermediaries such as Microsoft Expedia, Travelocity, Preview Travel, and Trip.com, are currently offering services. In the air travel distribution industry, travel agents are the traditional intermediary between the airline companies and the air traveler. They are compensated for their services by commissions paid by the air carriers. In recent years, the very survival of traditional travel agents has been called into question by threatened disintermediation by two powerful new competitors enabled by EC technologies: airline direct services and travel cybermediaries.

Tapscott (1995), among others, observed that travel agents are vulnerable to disintermediation and need to provide new value. Additional pressure was placed on travel agents when the air carriers imposed commission caps, as described in Section II.

The serious question to be addressed was whether or not traditional travel agents would lose significant amounts of business to new competitors. It was clear that what was fundamentally needed was a forecast of shifts in market share and number of travel agent entities as the new competitors took hold. A panel of industry experts was assembled to participate in a Delphi survey addressing the major issues. The Delphi method chosen is particularly suited to forecast technological developments (Delbecq, Van de Ven, and Gustafson, 1975). In addition, if the survey results were to be useful to traditional travel agents, it was important to tell them what industry experts thought about the prospects for their survival in time for them to take effective countermeasures. A more in-depth discussion of the Delphi method and the way it was applied in this investigation is presented in Section III, Research Methodology. The study results and their implications are presented in Sections IV and V.

## **II. RECENT DEVELOPMENTS IN THE U.S. AIR TRAVEL DISTRIBUTION INDUSTRY**

In 1995, after a long period of promoting partnership style arrangements with travel agents since the deregulation of the industry in 1978, the carriers imposed a cap of \$50 or 10% (whichever is lower) on commissions paid for a round trip domestic flight. The previous rate of commission had been 10% with no cap. Commissions on international flights remained unchanged at 10%.

In September 1998, airlines dropped commissions to 8% for both domestic and international flights and retained the \$50 cap on domestic flights. In November 1998, the airlines imposed a cap of \$100 on international round trip tickets. As a result of the commission caps and reductions, many travel agents began charging their customers \$10 to \$15 to help make up for the lost airline commissions. To make matters worse for the travel agents, most large airlines began to encourage travelers to bypass travel agents and book their flights with the airlines directly.

## **AIRLINE DIRECT SERVICES AND E-TICKETS**

Airline direct services take several forms:

- Internet sites,
- toll free telephone call centers,
- city ticket offices and
- airport ticket counters.

The ones competing with travel agents most directly are the first three. The two most important from a technology-enabled perspective are Internet sites and toll free telephone call centers.

One of the shortcomings of on-line travel sites is that travelers use the Internet site to search for information on itineraries and comparative prices, but then book the flight by using either the airlines' toll-free telephone call center or their travel agent. At an Internet site such as ual.com, operated by United Airlines, travelers are encouraged to book online by being offered 500 frequent flyer miles if they do so. Most of the other major carriers have similar offers. Typically, if a reservation is made on-line, it is in the form of an electronic ticket (an E-ticket). Travelers making reservations through an airline's toll free telephone call center are also encouraged to use an E-ticket.

An E-ticket is simply a record of a reservation made using a valid credit card number stored in the computer database of the airline company. No paper ticket is issued. With the use of E-tickets, the need for a paper ticket is eliminated. E-tickets reduce the costs of distribution for the airlines for airline direct reservations, since tickets do not have to be mailed to the traveler. They also weaken the role of the traditional travel agent in the distribution chain because one of their principal roles had always been to put tickets into the travelers' hands.

Business Week (Leonhardt, 1999) recently reported that after just four years, E-tickets account for about one-third of all trips taken in the US. Their biggest drawback up to now is that airline computers do not recognize E-tickets issued by other carriers. This shortcoming makes it difficult for a passenger holding an E-ticket to switch to another carrier if his flight is cancelled. Business Week reported that United Airlines and American Airlines are addressing this problem and hope, by sometime in 1999, to be able to "interline" E-tickets with just a few keystrokes on the computer. When this happens, and when it spreads to other carriers as well, the popularity of E-tickets should increase even further.

## **CYBERMEDIARIES**

Cybermediaries compete with traditional travel agents and airline direct services for market share in the US air travel distribution industry. In October 1998, Gomez Associates identified 19 on-line travel sites that permitted travelers to book air, hotel and rental cars over the Internet (<http://gomez.com/Travel>). In some cases the cybermediary uses its own booking engine (e.g. Travelocity), in other cases, it partners with other booking engines (e.g. Preview Travel partners with a Global Distribution System).

Cybermediaries offer several advantages over airline direct services. First, they permit travelers to book flights on almost any airline. Thus, the traveler is able to compare such details as price and departure times among the different carriers. Most also have features that assist travelers in searching for the lowest fares. These features are of less value to travelers locked into a particular airline because of its frequent flyer program and/or because of being located in a “fortress hub” location, i.e. a metropolitan area dominated by one air carrier.

In addition, many cybermediaries notify travelers by email when a discount fare is posted for a particular destination of interest to the traveler. The airline direct sites have a similar service. Most will send out a mid-week email with discount round trip flights available for the upcoming weekend as a way to unload so-called “distressed merchandise”, i.e. airline seats that would otherwise go unsold.

## **RESEARCH QUESTIONS**

Given the turbulent competitive environment in the air travel distribution industry, made more complex by the availability of EC technologies as new ways to connect customers, suppliers and intermediaries, the following research questions were identified:

1. Are traditional travel agents likely to lose market share to new EC-based competitors, i.e. is disintermediation expected to occur?
2. Will some reintermediation occur, i.e. will cybermediaries become viable competitors?
3. In which market segments are the traditional travel agents most likely to lose share to either airline direct services or cybermediaries?



4. What roles do the frequency and complexity of the transaction play in determining which channel player has a competitive advantage?
5. What level of acceptance will E-tickets have in each market segment?

### **III. RESEARCH METHODOLOGY**

The work described in this paper began in the fall of 1996 when five industry experts in the airline travel industry in Denver, Colorado, USA were interviewed. With one exception, all were chief executive officers of travel agencies. After analyzing the feedback from this group of executives, it was decided to focus on working on the development of key issues with one of them, Mr. Bill O'Connor, an active participant in the airline travel industry for over 25 years, a former executive with an airline company, and currently the co-owner of a successful travel agency serving high income leisure travelers. For the last ten years he consulted to airline companies and other travel companies all over the world.

#### **ASSEMBLING THE DELPHI PANEL**

Mr. O'Connor is active in industry affairs and maintains many highly placed contacts in the industry. It was decided to assemble the Delphi panel by inviting a small group of experts to participate and to ask those who accepted to nominate others whom they felt would be qualified to serve on the panel. Following this process, individuals either accepted or declined to participate, and either recommended others or did not. A total of 25 persons agreed to serve on the panel by September, 1997. Eight dropped out during the course of the study. Of the remaining 17, their backgrounds were as follows:

|   |          |
|---|----------|
| Travel agency owners or employees                         | 4        |
| Internet travel agency owners or employees                | 1        |
| Officers or employees of air travel industry associations | 3        |
| Consultants to the industry                               | <u>9</u> |
| Total   | 17       |

Airline industry representatives were invited to participate but either declined or were among those who dropped out.

## **DEVELOPMENT OF THE INITIAL QUESTIONNAIRE**

Several discussions were held with Mr. O'Connor to identify the key "players" in the air travel distribution channels, and the most important trends and strategic options with the advent of EC.

## **CHANNEL PLAYERS**

Because the panel was comprised of industry experts, it was important that the channel players presented to them in the questionnaire had a ring of reality to them. After discussion, the following key channel players were identified:

1. *National/Global Travel Agencies.* National/Global Travel Agencies are typified by agencies such as American Express Travel Services, Carlson and Rosenbluth. They typically serve several market segments and offer sophisticated marketing expertise as well as strong IT systems support systems. They serve multinational corporations and thus have a global presence.

2. *Independent Local Travel Agencies.* Independent local travel agencies range from the very small, 2 person agencies that focus on serving individual clients to larger agencies that serve more than one market segment, including small to medium sized corporate clients.
3. *Airline Direct Services.* Airline Direct Services disintermediate traditional travel agents by marketing directly to the air traveler through the use of call centers with toll-free inbound telephone lines, Internet web sites, and through city ticket offices and airline terminal sales.
4. *CRS/GDS Direct Services.* The Computerized Reservation Services (CRS) such as SABRE and Apollo and the Global Distribution Services (GDS) such as Galileo and Amadeus can potentially enter the air travel distribution market directly, stepping out from their traditional role as the entity which maintains the seat inventory records and facilitates interline reservations.
5. *Cybermediaries.* Cybermediaries are the new Internet-based intermediaries who have arisen and are independent of travel agents and airlines (although, in some cases, the more traditional players invest in them).
6. *Tour Package Specialists.* Tour package specialists typically operate in only one market segment, package and adventure tours (see following section). They tend to be very knowledgeable about their destinations and will frequently specialize in specific geographic regions (e.g. Costa Rica) or in certain types of tours (e.g. cruises, scuba diving). Their services are most often sold as a complete package including air, accommodations, and land tours.

## **MARKET SEGMENTS**

In the same way that it was important to identify channel players that the panel would accept as conforming to the real world, it was also important to specify customary market segments in the industry. Again, after discussion, the following five distinct market segments were identified:

1. *Large Corporate Market.* The large corporate market segment consists of large national or multinational corporations. For most of them, airline travel is a significant expense item that must be managed. The typical pattern is to issue written corporate policies for employee travel. For example, some permit employees to fly business class on overseas flights while others specify that they must fly coach. Some make special arrangements with airline companies for discounted tickets. In some cases, policy compliance and cost management is the responsibility of an internal travel department. In other cases, travel arrangements and management are outsourced to one of the channel players, typically a national or global travel agency.
2. *Small to Medium Sized Corporate Market.* Small to medium-sized corporate market needs are similar to those of the large corporate market segment. However, a global presence is not necessary as often, and policies and procedures are frequently less formal.
3. *Knowledgeable Business/Leisure Traveler Market.* The knowledgeable business/leisure traveler is defined as a frequent flyer who is capable of selecting his or her own airline companies and itineraries. Often, the most important factor in selecting an airline company is whether or not the traveler is a member of that airline company's frequent flyer program.
4. *Occasional Leisure Traveler.* Travel industry professionals term this segment VFR, the acronym for 'visiting friends and relatives'. It consists of consumers who are not well informed on the details of making air travel arrangements and are thus more likely to rely on independent advice.
5. *Package/Adventure Tours.* This segment involves individuals who purchase travel packages, which include air travel, hotels, ground transportation and the like. It also includes cruise travelers.

The initial questionnaire attempted to assess the basic needs and wants of the five major market segments. It asked panelists to estimate the percentage of each market segment that would be served by each channel player in the

years 2002 and 2007. They were also shown data on the number of agency entities and locations categorized by total revenues (as a surrogate measure of agency size) and asked to develop estimates of the number of agency entities and locations by size categories in the years 2002 and 2007. The questions asked of the panel are shown in Appendix II.

The survey was concluded in June 1998, after three rounds had been completed with insufficient divergence from the second round to justify a fourth round. Key results are discussed in the next section.

#### **IV. ANALYSIS OF RESULTS**

This section consists of a detailed presentation and analysis of the results of the third round of the survey organized around the five research questions identified in Section II. It draws some over-all conclusions and sets the stage for a discussion of the implications of this study and opportunities for follow-on research.

1. Are traditional travel agents likely to lose market share to new EC-based competitors, i.e. is disintermediation expected to occur?

##### **Agency Entities**

The panel believes that traditional travel agents are indeed threatened. For example, as shown in Table 1, there were some 22,806 travel agency locations in the US in 1997. The panel estimates that there will be approximately 17,000 in 2002 and 13,000 in 2007.

Table 1. Round 3 Estimates of U.S. Travel Agency Entities

| Air Sales<br>(Millions of \$) | 1<br>1993 | 1<br>1997 | 2<br>2002 | 2<br>2007 |
|-------------------------------|-----------|-----------|-----------|-----------|
| 0-1M                          | 14773     | 13048     | 7833      | 5334      |
| 1-2M                          | 4600      | 5583      | 4267      | 2860      |
| 2-3M                          | 1402      | 1900      | 1987      | 1933      |
| 3-4M                          | 638       | 744       | 890       | 907       |
| 4-5M                          | 316       | 421       | 633       | 663       |
| 5-10M                         | 599       | 716       | 793       | 813       |
| >10M                          | 457       | 394       | 627       | 773       |
| TOTAL                         | 22785     | 22806     | 17030     | 13283     |

1. Source: Airline Reporting Corporation (1993 actual sales reports through ARC; 1997 projected based on first quarter 1997 actual data). The data are used by permission.

1997 data may not to be reproduced without the express written permission of the Airline Reporting Corporation.

2. Data for 2002 and 2007 are consensus forecasts of the Delphi panel.

The forecasts represent a reduction in the number of travel agent entities of 25% between 1997 and 2002 and a reduction of 42% between 1997 and 2007. *If the panel's forecasts are close to being correct, there will be a major contraction in the number of travel agent entities between now and 2007.*

The panel also forecasts a definite shift away from the smaller agencies between 1993 and 2007. In 1993, 91% of the agency entities sold less than \$3 million in air travel, In 2007 the number of agencies with sales under \$3 million are estimated to comprise just 76%. Agency entities with sales of over \$5 million are expected to more than double, from 4.6% in 1993 to 10.7% in 2007.

Does the panel agree that the disintermediation of travel agents predicted by Tapscott (1995), Benjamin and Wigand (1995) and others will occur, or are the number of agency entities expected to drop for other reasons, as discussed in research question 2? It seems reasonable to conclude that disintermediation is expected to occur if the market share of airline direct services is projected to increase while the market share of travel agents is expected to decrease. The

issue will be examined later in this section. First, the question of whether reintermediation is expected to occur will be examined.

2. Will some reintermediation occur, i.e. will cybermediaries become viable competitors?

Even though the panel expects a substantial reduction in the number of travel agency locations and entities (Table 1), this does not necessarily in and of itself mean that they expect that the locations and entities that disappear will have been disintermediated. The estimated reduction could result from a wave of consolidation in the air travel distribution industry, with larger agencies absorbing smaller agencies in an attempt to gain economies of scale. To explore the question of disintermediation further, the panel was asked to estimate overall market share of each of the channel players identified above.

Unfortunately, it was not possible to identify an accurate source of market share estimates for each channel player in 1997 or 1998. Therefore Table 2 shows only market share estimates for the years 2002 and 2007:

Table 2. Overall Market Share Estimates for Each Competitor (Channel Player) in 2002 and 2007

| Channel Player                    | 2002 | 2007 |
|-----------------------------------|------|------|
| National/Global travel agencies   | 33.5 | 27.0 |
| Independent local travel agencies | 25.4 | 19.7 |
| Airline Direct Services           | 14.1 | 16.1 |
| CRS/GDS Direct Services           | 5.1  | 6.6  |
| Cybermediaries                    | 11.9 | 17.3 |
| Tour Package Specialists          | 5.4  | 6.5  |
| New Competitors (unspecified)     | 4.7  | 6.7  |
| Total                             | 100  | 100  |

All values are percentages

The most important point shown by the data in Table 2 is the drop in market share between 2002 and 2007 for both National/Global Travel Agencies and Independent Local Travel Agencies and the market share captured by airline direct services and cybermediaries. Clearly, the panel is not optimistic about the prospects for traditional travel agents in the face of competition from other channel players, and from the cybermediaries in particular. Since cybermediaries only recently appeared in the competitive landscape, they are projected to go from a zero market share in the mid 1990s to an estimated 11.9% share in 2002 and 17.3% in 2007. The new digital marketing channels discussed by Kierzkowski, McQuade, Waitman and Zeisser (1996) and the viability of cybermediaries and reintermediation discussed by Sakar, Butler and Steinfield (1995) are supported by the panel.

3. In which market segments are the traditional travel agents most likely to lose share to either airline direct services or cybermediaries?

Given that the panel expects traditional travel agents to lose market share overall, what is their relative vulnerability by market segment? As discussed in Section III, the market segments identified were the:

1. large corporate segment,
2. small to medium sized corporate segment,
3. knowledgeable business/leisure traveler segment,
4. occasional/leisure traveler segment, and
5. package/adventure tour segment.

Market share estimates for each channel player by market segment are summarized in Table 3.



Table 3. Market Share Percentages of Channel Players by Market Segment in 2007

|                            | Large Corporate | Small/Medium Corporate | Knowledgeable Business./Leisure | Occasional Leisure | Package and Adventure Tours |
|----------------------------|-----------------|------------------------|---------------------------------|--------------------|-----------------------------|
| National/Global Agencies   | 46.7%           | 30.9%                  | 19.3%                           | 20.1%              | 16.4%                       |
| Small/Medium Size Agencies | 7.1             | 26.2%                  | 20.5                            | 28.6               | 22.7                        |
| Airline Direct Services    | 15.2            | 11.9%                  | 19.8                            | 14.9               | 9.3                         |
| CRS/GDS Direct Services    | 7.6             | 7.1%                   | 6.8                             | 4.8                | 2.3                         |
| Cybermediaries             | 15.1            | 16.5%                  | 23.8                            | 22.7               | 14.0                        |
| Tour Package Specialists   | n/a             | n/a                    | n/a                             | n/a                | 30.6                        |
| New Competitors            | 8.3             | 7.5                    | 9.9                             | 8.9                | 4.7                         |
| Total                      | 100.0%          | 100.0%                 | 100.0%                          | 100.0%             | 100.0%                      |

Combined, the airline direct services and cybermediaries are expected to capture a total of 43.6% of the important knowledgeable leisure traveler segment and significant shares of all other segments. This forecast on the part of the panel does not augur well for the traditional travel agents. The knowledgeable business/leisure traveler is, by implication; a segment made up of individuals who are frequent flyers.

4. The fourth research question was “What roles do the frequency and complexity of the transaction play in determining which channel player has a competitive advantage?” This question was raised under the assumption that travelers would be more likely to use the airline direct services and cybermediaries for simpler transactions but would prefer to use the services of a travel agent for more complex transactions. The panel supported the assumption. For each of four transaction types with differing levels of complexity, they were asked to rank four channel players on their competitive advantage in supplying each type of air travel. Rankings ranged from 1 to 4, with 1 being the best and 4 being the worst. The results are shown in Table 4:

Table 4. Relative Competitive Advantage of Channel Players by Transaction Frequency and Complexity (1=best, 4=worst)

|            |      |                |      |                |      |
|------------|------|----------------|------|----------------|------|
| Complexity | High | Travel Agents  | 1.00 | Travel Agents  | 1.00 |
|            |      | Airline Direct | 2.20 | Airline Direct | 2.47 |
|            |      | Cybermediaries | 3.27 | Cybermediaries | 3.20 |
|            |      | CRS/GDS        | 3.53 | CRS/GDS        | 3.33 |
|            | Low  | Airline Direct | 1.40 | Airline Direct | 1.93 |
|            |      | Travel Agents  | 1.93 | Cybermediaries | 2.40 |
|            |      | Cybermediaries | 3.07 | Travel Agents  | 2.60 |
|            |      | CRS/GDS        | 3.60 | CRS/GDS        | 3.07 |
|            |      | Low Frequency  |      | High Frequency |      |

Clearly, travel agents (score=1.0) are thought to have a competitive advantage over the other channel players for complex transactions, whether of low or high frequency. Travel agents are thought to operate at a competitive disadvantage to both airline direct services and cybermediaries when the transaction complexity is low, again whether transaction frequency is high or low. CRS/GDS services are thought to operate at a competitive disadvantage to all other channel players for all types of transactions.

The results presented in Table 4 have some surface validity in empirical observations regarding electronic commerce. The EC retailing successes thus far tend to be for products and services that are commodity-like in nature (e.g. books, videos, CDs, computers, even automobiles). The less commodity-like a product or service is, the less likely a consumer will be to purchase it over the Internet. For example, when considering grocery products, consumers are more comfortable buying laundry detergent than tomatoes, since not all tomatoes are alike, whereas one box of branded laundry detergent is exactly like another. This result aligns with the distinction Bakos (1991) made between electronic commodity markets and differentiated electronic markets.

5. The last research question asked the panel to forecast the acceptance that E-tickets would have in each market segment. An increased level of acceptance of E-tickets on the part of air travelers would presumably strengthen the competitive position of airline direct services and cybermediaries vis-a-vis traditional travel agents. Today, one of the principal functions of the travel agent is to deliver the paper ticket to the air traveler. Table 5 summarizes the panel's forecasts of the percentage of air travelers who will be using E-tickets by the year 2002:

Table 5. Percentage of Air Travelers in Each Market Segment Expected to be Using E-tickets by 2002.

|   | Large Corp. | Small/Medium Corp. | Knowledgeable Business Leisure | Occasional Leisure | Package/Adventure Tours |
|---|-------------|--------------------|--------------------------------|--------------------|-------------------------|
| Percentage of Travelers using E-Tickets | 87%         | 81%                | 83%                            | 63%                | 51%                     |

As Table 5 shows, the panel believes that E-tickets will gain a considerable amount of acceptance in all five market segments. They forecast that the widest acceptance of E-tickets will be in both corporate market segments and in the knowledgeable business/leisure travelers segment.

As pointed out in Section I, this shift has enormous implications for the future of travel agents. If the over 80% acceptance of E-tickets in three such important market segments indeed occurs, it reduces the need for travelers to rely on travel agents (or anyone else, for that matter) to see that tickets are delivered to them in advance of their travel date.

In particular, the forecast penetration in the knowledgeable business/leisure travelers segment reinforces the prediction that this segment is where

traditional travel agents are most vulnerable to incursions from airline direct services and cybermediaries.

### **CONCLUDING REMARKS ON THE DELPHI SURVEY**

One question remains before the concluding this section on analysis of the results of the Delphi survey. As discussed throughout this section, the conclusions reached have a surface validity. Their ultimate accuracy, however, can be determined only with the passage of time. The question remains, therefore, how much should they be relied upon at this time? Three perspectives are presented in an attempt to address this question:

1. The expertise of the Delphi panel in this instance.
2. The reliability of the Delphi method in other instances.
3. The possible emergence of a disruptive technology or technique.

### **The Panel's Expertise**

The way the panel was formed gives great comfort as to the expertise of the panel. As discussed in Section III, the process began with Mr. Bill O'Connor, who has impeccable credentials, industry knowledge, and widespread contacts with other experts. His expertise was verified in extensive one-on-one conversations with him in formulating the study and developing the initial version of the questionnaire. Letters of invitation to join the panel were sent to six experts nominated by Mr. O'Connor. Panelists who accepted were asked to submit a biography and to nominate others whom might be qualified. Thus, everyone on the panel was nominated by an expert in the industry. The expert status of the panel was independently verified by examination of the biographies. While not all panel members submitted detailed biographies, job titles were used as an acceptable surrogate for those who did not. In addition, since the study was carried on over many months, three of the panel members were met in

person at industry conferences or other venues where their expertise was independently verified and observed.

### **The Reliability of the Delphi Method**

The Delphi method has been in use since the early 1960's, when it was developed at the Rand Corporation (Dalkey and Helmer 1963). Since then, it has gained acceptance as a standard methodology for developing consensus forecasts in several domains. The continued use of the Delphi methodology by other researchers when consensus forecasts are called for, (e.g. Brancheau, Janz, and Wetherbe, 1996) is an indication that it is reliable if the panel is carefully selected, as it was in this investigation.

### **The Possibility of the Emergence of a Disruptive Technology or Technique**

This investigation made an attempt to anticipate the emergence of a disruptive technology or technique by specifically asking the panel to consider possible new competitors to the channel players identified for the first round survey. Two were specifically identified as possibilities:

1. personal travel management software which will empower individuals to make their own travel arrangements without paying transaction fees or commissions, and
2. Airlines exit the distribution business and sell significant numbers of seats to new, consolidator-like intermediaries. The new intermediaries assume the risk of unsold seats.

On the other hand, the consensus view of EC is that it is still so new that it is very difficult to adopt a strategy that works for any reasonable period of time, because the environment changes so rapidly. Observers of the EC scene are fond of saying, "an Internet year is two months" or that "with EC, it's like being in the first minute of the first period of a hockey game". Barriers to entry are low, as

are switching costs. Someone with creative talent, good execution abilities, and adequate financing could conceivably find a way to capture market share from the channel payers identified in this investigation. Along the same lines, any one of the channel players could also find a way to appeal to the market place that would give it a competitive advantage over the others beyond what was foreseen by the panel. Given the rapid pace of change in EC, introduction of a disruptive technology or technique into the air travel distribution market certainly cannot be ruled out.

## **V. IMPLICATIONS AND OPPORTUNITIES FOR FOLLOW-ON RESEARCH**

### **IMPLICATIONS**

What are the implications of this research for travel agents? The most significant points are listed below. Perhaps most interesting is that, up to now, cybermediaries have been described in terms of new competition for travel agents, along with the airline direct services. In actuality, airline direct services compete against both travel agents and cybermediaries. Both represent intermediaries in the supply chain between the airline and the air traveler that the airlines would like to bypass so they can deal with their customers directly.

1. Travel agents face serious competition from both airline direct services and from cybermediaries focusing on the travel industry.
2. Airline companies reduced commissions paid to travel agents and cybermediaries. There is every indication that this trend will continue in the future, based upon recent events.
3. Travel agents *and* cybermediaries can reasonably expect that they will face commission cuts and caps from other travel providers, such as car rental companies, hotels, and cruise lines.
4. The loss of commission income will need to be made up by charging fees to companies and individual travelers who use the services of a travel agent.

Cybermediaries and travel agents with a web presence also have the opportunity to generate advertising revenues.

5. Charging a service fee will require travel agents *and* cybermediaries to demonstrate that they are adding value, otherwise travelers will use the less expensive airline direct services.

Further reflection on some of these points gets down to the question of “who owns the customer”? Is a knowledgeable business/leisure traveler in Denver a customer of United Airlines (the local hub airline) or of a local travel agent? Unless there is a compelling reason to use a fee for service travel agent or cybermediary, the traveler will most likely use the airline direct service since it is both convenient and free. As the study identified, however, the more complex the transaction, the more likely it is that the traveler will use a travel agent.

Thus, it seems there are at least two challenges for the travel agents and cybermediaries:

1. To convince travelers to book all of their travel through them by devising ways to demonstrate the value add and by countering the loyalty programs of the airlines and;

2. To communicate clearly to the marketplace the situations when it is most appropriate to use the information brokering services they offer to handle complex itineraries and to find the lowest fares.

In summary, the panel sees the travel agents as being under serious competitive pressures from both airline direct services and cybermediaries, and both travel agents and cybermediaries under serious competitive pressure from the airline direct services. Building closer relationships with customers is the travel agent’s best opportunity to survive and technology can help them do so. The panel is not optimistic, however, that local travel agents in particular will be

able to adjust. Thus their projections of the number of low end travel agents in the years 2002 and 2007 is pessimistic.

## **OPPORTUNITIES FOR FOLLOW-ON RESEARCH**

Several possibilities suggest themselves:

1. A longitudinal study to measure the actual numbers of travel agency locations and entities to determine if the disintermediation predicted by the panel does in fact occur.
2. The Delphi panel could be reconstituted and the questionnaire administered again at pre-set intervals, perhaps every two years. Results from subsequent surveys would presumably shed more light on the ultimate effects of EC technologies on channel players.
3. While this investigation focused only on the US air travel distribution industry, electronic commerce, the Internet, and the air travel distribution industry are global in scope. The questionnaire used in this investigation could be used intact, or modified to account for different circumstances and cultures.
4. This investigation could serve as a prototype approach for investigating the prospects for disintermediation and reintermediation in a variety of industries
5. Case studies of successful strategies developed and deployed by travel agents and/or cybermediaries to counter the airline direct strategies would be of interest both for informing the practitioner community and for the classroom.
6. This investigation confirmed that the more commodity-like a product or service is, the more likely consumers will be to purchase it over the Internet. This conclusion is demonstrated in other sectors such as books, CDs and computer software. The question is what any of the competing channel players could do to make complex transactions simpler, or alternatively, to bundle more information with a simple transaction.



Other possibilities involve emerging technologies. Agent-mediated electronic commerce seems to be a natural for supporting an electronic market in airline tickets (Chavez and Maes, 1996). Voice recognition systems and language translation software are two other emerging technologies that could be applied in this domain. Hybrid systems, which combine web delivery of information with an option for the consumer to establish a telephone connection with a customer service call center, are also promising technologies.

In summary, for the foreseeable future, there will likely be no shortage of interesting opportunities for research.

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## **APPENDIX I: REVIEW OF PRIOR RESEARCH**

### **STRATEGIC INFORMATION SYSTEMS AND THE AIRLINE TRAVEL INDUSTRY**

The airline travel industry is often used as an example of the ways that IT can be used for competitive advantage. Case studies have been written for the classroom (e.g. Vitale 1983; Marshall, 1994) and many articles appear in the academic and business literature discussing such IT-based Strategic Information Systems (SIS) as airline reservation systems, frequent flyer programs, and yield management systems.

Copeland and McKenney (1988), for example, concentrate on the computerized reservation systems (CRS). In addition to acknowledging that a CRS gave the owner-airline a marked advantage through dominance of the distribution channel and access to marketing information, the CRSs were very profitable in their own right.

Max Hopper (1990), the CIO of American Airlines during the years when SABRE was developed, seemed to concur with Copeland and McKenney when he said that in the 1990s, firms would focus less on being first to market with a SIS in favor of putting more effort into using and improving upon generally available tools to enhance what those firms already do well.

At the travel agency level, Clemons and Row (1991) discuss how one agency, Rosenbluth Travel, grew from being a regional travel agency with \$40 million in annual sales to one of the five largest travel agencies in the United States in ten years, with sales of \$1.3 billion. Rosenbluth exploited the complexities that deregulation created in the marketplace by using IT to effectively manage complexity while leveraging human expertise.

## **RECENT SIS INITIATIVES IN THE AIRLINE TRAVEL INDUSTRY**

Lyle (1995) discussed some of the IT-enabled developments in the airline travel industry and their implications for travel agents. Ticket distribution costs rose from 4 percent of carrier operating costs within North America in 1978 to 12 percent in 1994. The difference to the carriers amounted to \$4.5 billion per year in 1994. A 1996 analysis by the International Air Transportation Association reported that as much as 20 percent of an airline's costs go toward distribution (McKenna, 1996).

The air carriers, while they depend on travel agents, made a decision to attempt to reduce their ticket distribution costs by attacking the problem on several fronts. First, in early 1995, they abruptly imposed a \$50 cap on travel agents' commissions for domestic return airfares. This had a major and sudden negative impact on travel agents' revenues. Next, airlines began promoting various schemes to bypass the travel agents. United Airlines, for example, introduced United Connection (Wildstrom 1997), a software program, which

permits individuals to make their own reservations from their PC. Tickets are mailed to the customer by the airline, or the customer may opt for an “E-Ticket” Members of United’s MileagePlus frequent flyer program received 500 frequent flyer miles as an incentive use United Connection, thereby bypassing the travel agent.

New intermediaries, such as Travelocity and Microsoft’s Expedia, offer additional options (Wildstrom, 1997). Travelers can make their reservations from their PCs using these services and bypass both the airlines and traditional travel agents. Both services promise to find the lowest fares, and since they are Internet-based, can be accessed from any computer with an Internet connection. They are also available 24 hours a day, seven days a week. Travelers who use the Internet-based services bypass both the airlines and the traditional travel agent.

## **ELECTRONIC MARKETS AND AGENT-MEDIATED ELECTRONIC COMMERCE**

Malone, Yates and Benjamin (1987) cite the airline travel industry as an example of the shift towards electronic markets. These authors speculate that the greater range of choices available through the electronic market facilitated by travel agents is the principle reason why travel agent bookings increased from 35 to 70 percent since the introduction of the first CRS.

Rayport and Sviokla (1994) differentiate between Marketplace and Marketspace. They point out that what is unique about the marketspace model is that businesses can focus on one element of it. In an information rich “Marketspace” such as the Internet, customers learn about products and services differently, buy them differently and have them delivered differently.

Movement towards electronic markets in the US air travel industry can be found in such ventures as Priceline.com wherein the traveler submits a bid for a flight, specifying departure date, return date, and destination. The traveler also submits his credit card number at the same time. The traveler is notified by email within one hour whether or not Priceline.com was able to find an airline willing to sell a seat for the bid price.

Intelligent software agents can play an important role in the implementation of electronic markets. Experimental prototypes developed at the Media Lab at the Massachusetts Institute of Technology (MIT) are operating in a controlled “marketplace” now, buying and selling books, compact disks CDs), star ships, computer games and translation services (Wang, 1999). In April 1999, Denver-based Trip.com (<http://www.Trip.com>), announced the launch of intelliTRIP™, its proprietary intelligent agent travel search technology which enables consumers to query multiple airline Web sites simultaneously for fares in just 90 seconds. By providing integrated direct access to travel supplier sites, intelliTRIP™ ensures that travelers have a complete inventory of fares from which to make their decision and enables them to purchase directly from leading airlines.

## **DISINTERMEDIATION AND REINTERMEDIATION**

Disintermediation refers to the displacement of an intermediary in the channel between the producer of a product or service and its end consumer. Many observers of the electronic commerce scene have predicted that disintermediation will occur, and that intermediaries must consider disintermediation as a competitive threat and adjust their business strategies accordingly. Tapscott (1995) stated that airline tickets will soon disappear as the process becomes digitized. Bill Gates, Microsoft CEO (1995), also predicts that

the number of middlemen will be reduced, but that there is plenty of time to prepare.

Benjamin and Wigand (1995) synthesized previous research to suggest that:

1. All intermediaries between the manufacturer and the consumer may be threatened as the National Information Infrastructure (NII) reaches out to the consumer.
2. Profit margins may be substantially lowered and redistributed.
3. The consumer will have access to a broad selection of low cost goods.
4. There will be many opportunities to restrict consumers' access to the potentially vast amount of commerce.

Sakar, Butler, and Steinfield (1995) take a somewhat different position. They acknowledge the conventional view that one effect of electronic markets will be the bypassing of intermediaries because of the theoretical ability of electronic markets to reduce transaction costs. Their view, however, is "not only is it likely that widely available information infrastructures will reinforce the position of traditional intermediaries, but that networks will also promote the growth of a new generation of intermediaries. These new players, which we call Cybermediaries, are organizations that perform the mediating tasks in the world of electronic commerce."

In similar fashion, Patricia Seybold (1998) notes that "while there is a fair amount of disintermediation going on with electronic commerce technologies, there's an equally vibrant industry of middle people who have sprung into being precisely to serve the needs of companies that want to make it easy for customers to do business with them" (i.e. reintermediation).

## **SUMMARY**



Inasmuch as the US airlines have enjoyed such widespread success and recognition for the development of creative SIS, it is not surprising that the industry would be among the first to employ the powerful new electronic commerce technologies in an attempt to gain additional competitive advantages. In an attempt to reduce their ticket distribution costs, the airlines have made it quite clear that they intend to disintermediate traditional travel agents and deal with air travelers directly, even if it means that travel agents who cannot adapt to the new conditions will be forced out of business.

As electronic markets become more widespread, many observers expect disintermediation to occur with greater frequency, as it becomes easier for intermediaries to be bypassed with producers of goods and services using IT and the the Internet to reach out to consumers directly. Others believe that electronic markets and the NII may well, in fact, lead to more intermediation and the rise of a new class of intermediaries called “cybermediaries”.

Predictions that reintermediation would occur in many industries have proven to be correct in the air travel distribution industry with the rise of cybermediaries who offered air travelers an Internet based option for booking air travel. Cybermediaries pose another competitive threat to the traditional travel agents and, in addition, offer additional information-based services to air travelers not offered by the direct channels of the airline companies.

## **APPENDIX II. U.S. AIR TRAVEL INDUSTRY DELPHI SURVEY**

Note: The questions shown in this Appendix are a sub-set of the questions used in the actual questionnaire Only questions which relate to the results reported in this paper are shown. The complete questionnaire was used in support of a larger work. The complete questionnaire is available from the author.

## STRATEGIC TRENDS AND OPTIONS IN KEY MARKET SEGMENTS

Please answer each question completely. If you are not sure of an answer, please give us your best guess rather than leaving an answer blank. If you need more space for an answer, please attach additional sheets. If a question needs clarification, please contact the Center for the Study of Electronic Commerce using the contact information on the last page of this questionnaire. Thank you very much for participating.

1. The large corporate air travel market will be shared by competitors in the following proportions in the years 2002 and 2007:

|  | <u>2002</u> | <u>2007</u> |
|--|-------------|-------------|
| a. National/Global travel agencies         |             |             |
| b. Independent local travel agencies       |             |             |
| c. Airline direct services                 |             |             |
| d. CRS/GDS direct services                 |             |             |
| e. Cybermediaries (e.g. Expedia)           |             |             |
| f. New competitors (please describe below) | _____       | _____       |
|  | 100%        | 100%        |

2. The small to medium-sized corporate air travel market will be shared by competitors in the following proportions in the years 2002 and 2007:

|  | <u>2002</u> | <u>2007</u> |
|--|-------------|-------------|
| a. National/Global travel agencies         |             |             |
| b. Independent local travel agencies       |             |             |
| c. Airline direct services                 |             |             |
| d. CRS/GDS direct services                 |             |             |
| e. Cybermediaries (e.g. Expedia)           |             |             |
| f. New competitors (please describe below) | _____       | _____       |
|  | 100%        | 100%        |

3. The knowledgeable business/leisure travelers market will be shared by competitors in the following proportions in the years 2002 and 2007:

|  | <u>2002</u> | <u>2007</u> |
|--|-------------|-------------|
| a. National/Global travel agencies         |             |             |
| b. Independent local travel agencies       |             |             |
| c. Airline direct services                 |             |             |
| d. CRS/GDS direct services                 |             |             |
| e. Cybermediaries (e.g. Expedia)           |             |             |
| f. New competitors (please describe below) | _____       | _____       |
|  | 100%        | 100%        |

4. The occasional leisure travelers market will be shared by competitors in the following proportions in the years 2002 and 2007:

|  | <u>2002</u> | <u>2007</u> |
|--|-------------|-------------|
| a. National/Global travel agencies         |             |             |
| b. Independent local travel agencies       |             |             |
| c. Airline direct services                 |             |             |
| d. CRS/GDS direct services                 |             |             |
| e. Cybermediaries (e.g. Expedia)           |             |             |
| f. New competitors (please describe below) | _____       | _____       |
|  | 100%        | 100%        |

5. The air travel portion of the package/adventure tours market will be shared by competitors in the following proportions in the years 2002 and 2007:

|  | <u>2002</u> | <u>2007</u> |
|--|-------------|-------------|
| a. National/Global travel agencies         |             |             |
| b. Independent local travel agencies       |             |             |
| c. Airline direct services                 |             |             |
| d. CRS/GDS direct services                 |             |             |
| e. Cybermediaries (e.g. Expedia)           |             |             |
| f. New competitors (please describe below) | _____       | _____       |
|  | 100%        | 100%        |

6. Please estimate the percentage of air travelers in the U.S. who will be traveling using electronic tickets by the year 2002:
- a. \_\_\_\_\_% of travelers in the large corporate market segment
  - b. \_\_\_\_\_% of travelers in the small to medium-sized corporate market segment
  - c. \_\_\_\_\_% of travelers in the knowledgeable business/leisure market segment
  - d. \_\_\_\_\_% of travelers in the occasional leisure travel segment
  - e. \_\_\_\_\_% of travelers in the package/adventure tours segment
7. For each of the following transaction types, rank each of the competitors on their competitive advantage in supplying each type of air travel: (1=best, 4=worst)
- a. High-frequency, non-complex transactions (e.g. non-stop domestic air)
    - \_\_\_ Travel agents
    - \_\_\_ Airline direct
    - \_\_\_ CRS/GDS
    - \_\_\_ Cybermediaries
  - b. High-frequency, complex transactions (e.g. multi-point domestic, non-stop international air)
    - \_\_\_ Travel agents
    - \_\_\_ Airline direct
    - \_\_\_ CRS/GDS
    - \_\_\_ Cybermediaries
  - c. Low frequency, non-complex transactions (e.g. conference air travel)
    - \_\_\_ Travel agents
    - \_\_\_ Airline direct
    - \_\_\_ CRS/GDS
    - \_\_\_ Cybermediaries
  - d. Low-frequency, complex transactions (e.g. multi-point international air,

executive travel)

- \_\_\_ Travel agents
- \_\_\_ Airline direct
- \_\_\_ CRS/GDS
- \_\_\_ Cybermediaries

8. Overall market share estimates for each competitor in the years 2002 and 2007:

|                                      | <u>2002</u> | <u>2007</u> |
|--------------------------------------|-------------|-------------|
| a. National/Global travel agencies   |             |             |
| b. Independent local travel agencies |             |             |
| c. Airline direct services           |             |             |
| d. CRS/GDS direct services           |             |             |
| e. Cybermediaries (e.g. Expedia)     |             |             |
| f. Tour package specialists          |             |             |
| g. New competitors                   | _____       | _____       |
|                                      | 100%        | 100%        |

9. Please estimate the number of travel agency locations and entities in the years 2002 and 2007. Actual figures for 1993 and forecasts for 1997 are shown below as a reference point for your estimates.

| <b>1993 Air Sales</b> | <b># of Agency locations (no. stps)</b> | <b>% of Total</b> | <b>Cumulative %</b> | <b># of Agency Entities</b> | <b>% of Total</b> | <b>Cumulative %</b> |
|-----------------------|---|-------------------|---------------------|-----------------------------|-------------------|---------------------|
| 0-1M                  | 21,011                                  | 65%               | 65%                 | 14,773                      | 65%               | 65%                 |
| 1-2M                  | 6,635                                   | 20%               | 85%                 | 4,600                       | 20%               | 85%                 |
| 2-3M                  | 2,077                                   | 6%                | 91%                 | 1,402                       | 6%                | 91%                 |
| 3-4M                  | 911                                     | 3%                | 94%                 | 638                         | 3%                | 94%                 |
| 4-5M                  | 484                                     | 1%                | 96%                 | 316                         | 1%                | 95%                 |
| 5-10M                 | 933                                     | 3%                | 99%                 | 599                         | 3%                | 98%                 |
| >10M                  | 444                                     | 1%                | 100%                | 457                         | 2%                | 100%                |

Source: Airline Reporting Corporation (1993 actual sales reports through ARC)

| <b>1997 Air Sales, projected</b> | <b># of Agency locations (no. stps)</b> | <b>% of Total</b> | <b>Cumulative %</b> | <b># of Agency Entities</b> | <b>% of Total</b> | <b>Cumulative %</b> |
|----------------------------------|---|-------------------|---------------------|-----------------------------|-------------------|---------------------|
| 0-1M                             | 17,827                                  | 53%               | 53%                 | 13,048                      | 57%               | 57%                 |
| 1-2M                             | 8,316                                   | 25%               | 78%                 | 5,583                       | 24%               | 82%                 |
| 2-3M                             | 3,065                                   | 9%                | 87%                 | 1,900                       | 8%                | 90%                 |
| 3-4M                             | 1,322                                   | 4%                | 91%                 | 744                         | 3%                | 93%                 |
| 4-5M                             | 810                                     | 2%                | 93%                 | 421                         | 2%                | 95%                 |
| 5-10M                            | 1,468                                   | 4%                | 97%                 | 716                         | 3%                | 98%                 |
| >10M                             | 844                                     | 3%                | 100%                | 394                         | 2%                | 100%                |

Source: Airline Reporting Corporation (1997 projected based on first quarter 1997 actual data).

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| Year 2002<br>Air Sales | Year 2002<br>Number of<br>Agency<br>Locations | Year 2002<br>Number of<br>Agency<br>Entities | Year 2007<br>Air Sales | Year 2007<br>Number of<br>Agency<br>Locations | Year 2007<br>Number of<br>Agency<br>Entities |
|------------------------|---|--|------------------------|---|--|
| 0-1M                   |   |  | 0-1M                   |   |  |
| 1-2M                   |   |  | 1-2M                   |   |  |
| 2-3M                   |   |  | 2-3M                   |   |  |
| 3-4M                   |   |  | 4-5M                   |   |  |
| 4-5M                   |   |  | 4-5M                   |   |  |
| 5-10M                  |   |  | 5-10M                  |   |  |
| >10M                   |   |  | >10M                   |   |  |

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